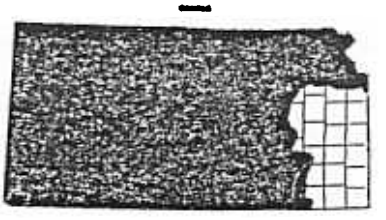
SHALLOW FLATS

KANSAS RANGE SITE DESCRIPTION

1 Location of Site:



Land Resource Area 112
(Cherokee Prairie)

2. Climate:

See climate for LRA 112
(Filed in the front of Section II-E)

3. Topography:

Nearly level to gently sloping uplands with slopes up to 3 percent On rare occasions slopes up to 15 percent occur.

4. Soils and Hydrological Characteristics:

a. This gently sloping, well drained site is on the upper side slope of ridges in the uplands. Limestone rocks 1 to 2 feet in diameter cover up to 3 percent of the surface. The soils are generally stony silty clay loams to a depth of 20 to 40 inches. In some areas the surface layer contains no rock.

b. The soil that characterizes this site is Clareson

c. The major concern in managing this site is the droughty nature caused by the low available water capacity. The root zone is restricted by bedrock at a depth of 20 to 40 inches. Where severe overgrazing has occurred, sheet erosion is a major hazard.

5. Climax Vegetation:

a. The natural potential vegetation of this site is dominated by tall and mid grasses. Big bluestem, little bluestem, indiangrass, sideoats grama, and switchgrass produce about 80 percent of the vegetation. The shallow root zone and fire are two factors that slowed the advance of woody vegetation onto this site.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 85 Percent			Forbs - 10 Percent		Shrubs and Cacti - 5 Percent	
	30	big bluestem		ashy sunflower		aromatic sumac
55	30	little bluestem		buttonsnakeroot eryngo	5	ceanothus
	10	indiangrass		catclaw sensitivebriar		leadplant
				cobea penstemon		pricklypear
25	20	sideoats grama		compassplant		
	10	switchgrass		fringeleaf ruellia		
			10	longbeard hawkweed		
		Canada wildrye		pale echinacea		
		Florida paspalum		pitcher sage		
5		purple lovegrass		purple lespedeza		
		rosette panicums		roundhead lespedeza		
		sedges		spiderwort		
		Virginia wildrye		stiff sunflower		
				tall gayfeather		
				white prairieclover		
				Atlantic wildindigo		
				baldwin ironweed		
				blackeyedsusan		
				blue wildindigo		
				dotted gayfeather		
				green antelopehorn		
				inland ironweed		
			T	Louisiana sagewort		
				Missouri goldenrod		
				plains larkspur		
				plains wildindigo		
				prairieconeflower		
				prairie four o'clock		
				stiff goldenrod		
				wavyleaf thistle		
				western ragweed		

c. Common invaders to the site include annual broomweed, buckbrush, hawthorn species, Japanese brome, lanceleaf ragweed, persimmon, prairie threeawn, smooth sumac, red cedar, and tall dropseed.

6. Management Implications

This site appears on upland limestone ridges throughout the Cherokee Prairie landscape. The gentle slopes of the site make good distribution of grazing of the site easily attainable. However, fluctuating forage production because of the droughty nature of the site creates some problems in managing to obtain proper use.

When this site is overgrazed by cattle, sideoats grama increases rapidly. Under continued overgrazing, Japanese brome, prairie threeawn, broomweed, and lanceleaf ragweed tend to dominate the site. Once large populations of lanceleaf ragweed become established they tend to inhibit the reestablishment of more desirable plants.

Overgrazing with sheep results in the rapid reduction of forbs and a slow reduction of the major grass species. Continued overgrazing will result in an increase of brush species and annual grasses.

Management that includes a planned grazing system, early intensive stocking, or frequent late season rest helps maintain this site in optimum condition. By maintaining a healthy stand of grass, fire and other brush management techniques normally make acceptable populations of woody species easily attainable.

7. Wildlife Considerations:

Game animals do not normally prefer this site for nesting or cover since it tends to be quite droughty. Quail, deer, prairie chickens, and other wildlife species do frequent the area for feeding. The birds may also use the more shallow portions of the site for dusting.

Lizards, snakes, rodents, and other small animals prefer the rocky open areas of this site. Their presence attracts hawks and other birds of prey.

Maintaining tall grass vegetation on the more productive portions of this site creates a mosaic effect with the short vegetation on the shallow or rocky areas. Such a mosaic creates a diversity which attracts a variety of wildlife to the site.

8. Other Uses and Values:

The abundance of limestone rock normally found on the soil surface contributes to this site being maintained in a natural state. The stoniness discourages development on the site for commercial and residential purposes.

An abundance of flowering plants along with the surface rock makes this site attractive to photographers, hikers, and wildflower enthusiasts.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions, influence annual herbage production.

	Total Air Dry Herbage	
Growing Conditions	Pounds/Acre	Kilograms/Hectare
Favorable	4500-5500	5000-6100
Normal	3500-4500	3900-5000
Unfavorable	2500-3500	2800-3900

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	8-12	1.2	3-5	3.0
Good	51-75	12-16	.9	5-6	2.2
Fair	26-50	16-25	.6	6-10	1.5
Poor	0-25	25+	.4	10+	1.0

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production.

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Animal Species			
	Cattle	Sheep	Goats	Deer
aromatic sumac	L	L	M	C
ashy sunflower	H	H	H	F
big bluestem	H	M	M	C
Canada wildrye	H	H	M	F
catclaw sensitivebriar	H	H	H	F
ceanothus	H	H	H	F
compassplant	H	H	H	F
dotted gayfeather	M	M	M	---
indiangrass	H	M	M	C
Japanese brome	M 1/	H 1/	M 1/	F
leadplant	H	H	H	F
little bluestem	H	M	M	C
rosette panicums	M	M	M	---
roundhead lespedeza	H	H	H	F
sedges	M	M	M	F
sideoats grama	H	M	M	---
switchgrass	H 2/	M	M	C
western ragweed	M	M	M	---

1/ Has a high preference during lush growth periods

2/ Preferred during first half of growing season

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.